

**ABSTRACT**

The object of the invention is a process for the production of a molecule vector that can be used in water treatment, able to trap heavy ions, characterized in that it comprises the following stages:

- Diluting ornithine,  $\text{NH}_2\text{-(CH}_2\text{)}_3\text{-CH(NH}_2\text{)-COOH}$ , in water,
- Adjusting the pH to a value of between 6.5 and 7.5,
- Adding glutaraldehyde,  $\text{OHC-(CH}_2\text{)}_3\text{-COH}$ , and
- Awaiting the polycondensation reaction and the formation of imines, and
- Recovering the poly(ornithine-G) that is obtained.

The invention also covers the vector that is obtained and the use as heavy-ion sensors.